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Education, Research, Transformation

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RELATIONAL ARCHITECTURE: EDUCATION, RESEARCH, TRANSFORMATION

Henrik Reeh

ABSTRACT

The present study of PhD education and its impact on architectural research singles out three layers of relational architecture.

A first layer of relationality appears in a graphic model in which an intimate link between PhD education and architectural research is outlined. The model reflects a human and institutional development going on since around 1990 when the present PhD institution was first implemented in Denmark. To be sure, the model is centred around the PhD dissertation (element #1). But it involves four more components: the PhD candidate (element #2), his or her supervisor in a scholarly institution (element #3), as well as the certified PhD scholar (element #4) and the architectural profession, notably its labour market (element #5). This first layer outlines the contemporary context which allows architectural research to take place in a dynamic relationship to doctoral education.

A second layer of relational architecture is revealed when one examines the conception of architecture generated in selected PhD dissertations. Focusing on six dissertations with which the author of the present article was involved as a supervisor, the analysis lays bare a series of dynamic and interrelated fields in which *history*, *place*, and *sound* come to emphasize architecture's relational qualities rather than the apparent three-dimensional solidity of constructed space.

A third layer of relational architecture is at stake in the professional experiences after the defence of the authors' dissertations. Once again, the interrelational features in architecture take the upper hand. Despite having completed a research education (lasting three years in the Danish system), accredited PhDs are not typically employed in full-time research positions. In their professional lives, the six recent doctors explore practices such as (1) film-making on urban architecture, (2) research and administration in archi-

tectural heritage, (3) consultancy-related research on public space or theatre culture, as well as (4) teaching and research in higher education. As a result, the relational architecture demonstrated in their dissertations is amplified by the authors' later professional practices, which happen to confirm architecture's relationality in both substance and organization.

In sum, the article shows how three layers of relational architecture coexist; thus it signalizes the degree to which research education, space conceptions, and professional practices are all increasingly pervaded by or even promoting relational features.

KEYWORDS

relational architecture, PhD education, academic supervision, Denmark, architectural history, public space in suburbia, sound and embodiment

INTRODUCTION

The landscape of research and reflection on architecture has been transformed during the past three decades. This transformation runs parallel to the promotion of doctoral programs which enable a systematic academic elaboration of architectural issues, spanning the entire built environment and its cultural repercussions.

For those who started their doctoral studies in the Nordic countries about thirty years ago, there were hardly coherent programs in the field, and supervision was a matter of scholarly discussions among relative equals. In those days, in Denmark at least, one was not considered a student anymore; with no transition one became a member of the academic staff on a nearly equal footing with full-time permanent professors. There was one major difference, of course: the monthly paycheck would stop arriving after a couple of years. In the meantime, the expectations regarding the dissertation to be written were both vague and ambitious. This ambitious vagueness may, in part, explain the fact that quite a few scholars never handed in their dissertation for the so-called "Licentiatgrad" (*lic. phil.*). Nonetheless, they continued their careers as if nothing had happened. A good master's thesis in those days was sometimes as elaborate and dense as a PhD dissertation in present-day terms.¹

All of a sudden, however, the PhD title was considered a useful or even necessary component in an academic career in Denmark. In order to promote this new step on the academic ladder, all sorts of generous travel grants were

awarded for studies abroad by the so-called Forskerakademiet (Researchers' Academy, 1986–99). In reality, the Danish government had decided that a third level, beyond the master's level but below the traditional dr. phil. (the equivalent of a *Habilitation* in Germany and a *Thèse d'État* or *Thèse d'Habilitation à Diriger des Recherches* in France), be established in order to make the national educational system comparable to international standards, in which a master's thesis didn't count as much. In France, for instance, students were often but twenty-two-years-old when they graduated, while Danish *cand. mag.* or *mag. art.* candidates were frequently approaching their thirtieth birthday – not unlike many serious *Magister* graduates in the Germany of those days.

Since its introduction in 1989, the PhD system has proliferated according to what later became the Bologna model for European education (3+2+3 years).² Even fully financed PhD candidates are now called “students”, whereas they used to be termed *kandidatstipendiater*, i.e. scholars carrying a stipend after having become “candidates” (*cand. mag.* or *cand. arch.*). Along with the status as a student anew (yet at a higher level), doctoral courses (calculated in ECTS points representing the estimated workload) and systematic supervision have been implemented, so that, today, there is a coherent institutional framework of doctoral education. Essentially, it is – or should be – absolutely realistic to finish in time, after three years. Or the project ought to be downscaled, since there is no funding available for finishing the thesis after the expiry of the stipend period.³ Just fifteen years ago, many academically serious PhD candidates didn't dare to finish their dissertation as scheduled but would carry on until a fully convincing scholarly level had been reached. Today, issues of delivery come first, while excessively time-consuming criteria of quality are considered a superfluous luxury.

PART I. EDUCATION AND MORE: A MODEL

In the present system of research education, which also entails courses (half a year – 30 ECTS) and job training (another half a year – 840 hours as part of a work contract), the doctoral dissertation (Danish: *ph.d.-afhandlingen*) overshadows all other elements. The dissertation, occupying two of a total of three years' study time, remains central, firstly, when applicants are selected, secondly, when the title is being conferred (after a successful defence of the dissertation), and thirdly, afterwards, when doctors, younger or more experienced ones, are discussing their occupations during the three years spent as a PhD candidate, a period which is remarkably privileged and demanding at the same time.

Since the late 1980s, doctoral education has become a complex institution in its own right, and it increasingly imposes itself as a *system* which involves a number of well-defined factors. While all factors are meant to facilitate the academic result, i.e. the dissertation, they themselves are affected by the recent cohesion of a doctoral education environment in which the academic institutions (supervisor, doctoral schools, etc.) come to play new roles.

In short, if we are to understand the development of research within and thanks to PhD programs (*forskeruddannelse* – “education of researchers” as the field was originally termed), it is necessary to address the system in *relational terms*. Hence, a *synoptic view of the total system* is required in order to single out those relationships within research education which promote a new language reflecting a commonly shared framework for a self-reflexive and conceptual approach in architecture. Thanks to this self-reflection, architecture is taken beyond levels of technical mastery and, instead, becomes an object of meta-scholarly thinking, too.

I shall limit the number of elements in the synoptic model of contemporary PhD education to five only.

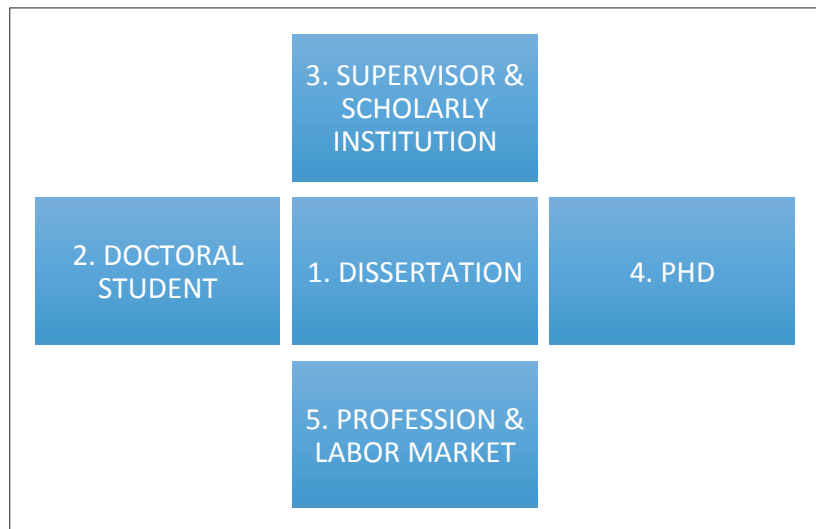


Figure 1. The relational architecture of the doctoral research environment.

The above model provides a first example of a *relational architecture*; this is a map of the factors which should be taken into consideration in order to understand the precise conditions of research evolving within the framework of PhD education. A few comments about each of the elements will reveal this model as a map representing a dynamic process.

1. Now, as before, the symbolic centre remains the DISSERTATION. The dissertation – the doctoral thesis – is the test and the challenge, the medium and the result, testifying to the successful completion of doctoral studies. At least in a university tradition, the written thesis is pivotal, while architectural projects and other media are not frequently accepted.⁴ In the humanities, the monograph remains the dominant genre, while a collection of articles and independent chapters is also possible, provided that a so-called “cape”, a reasoned introduction, establishes and justifies a certain degree of cohesion between the individual elements.⁵

2. One cannot conceive of the dissertation without addressing the PhD CANDIDATE, i.e. the doctoral student who, during a three-year period, is expected to move – academically and mentally – from a master’s level to a PhD level – a transformation during which he or she is writing a scholarly text of no more than 100,000 words (by Copenhagen humanities standards).

3. The author and the text don’t exist in a vacuum. A certain institutional framing has always been effective, also before the age of PhD programs or doctoral schools, but the role of SUPERVISORS has been significantly strengthened, quantified even, since a number of hours per semester – from thirty to fifty, depending on the faculty and the university – is now allocated to the individual professor’s work account. Being the supervisor of a PhD candidate is generally considered a professional privilege rather than a time-consuming obligation.⁶ Without having written one single line of the individual dissertations, the supervisors may hope to recognize elements of their personal research agendas in the work of PhD candidates who, in a certain way, help to transform some of the sketchy ideas, rumbling in the minds of supervisors, into pieces of completed research – research that the supervisor, being limited in time and intellect, would never have been capable of finishing. Or is this interpretation an effect of narcissism, an illusion? To be sure, the PhD candidate is recognized as the sole author of the dissertation which often represents the biggest and most intensive research project ever to be completed by him or her during an entire lifetime.

4. In order to introduce a *temporal dimension* into the model, the dissertation, the candidate, and the supervisor are supplemented by more factors. The PhD candidate doesn't remain a candidate forever; after a successful defence of the dissertation (ritualized as a smaller version of the public habilitation defence, *dr. phil.*),⁷ he or she is allowed to employ the title "PhD". Being labelled "PhD" is a significant professional distinction compared to the previous status as an MA or *cand. mag. / cand. arch.* It is as if the researcher were professionally reborn at a higher level – reincarnated with a substantially increased degree of intellectual legitimacy. Given the growing number of *Philosophiae Doctors*, a whole NEW PROFESSIONAL CLASS is coming about. Little by little, the members of this "caste" are forming a collective – a group whose members have been trained to employ a discursive idiom which expresses not only a higher degree of specialization, but also more general epistemological reflection.

5. Finally, one shouldn't underestimate the role of THE PROFESSION AND THE LABOUR MARKET. Progressively, the architectural discourse and the organization of knowledge, as well as the division and hierarchy of labour, are all affected by the existence of colleagues titled "PhD".

Within private companies or public institutions, it might still look superfluous to have been trained as a PhD. Certain colleagues associate this title with overly intellectual habits that run counter to the pragmatic organization of many everyday work processes. In the long run, however, the stereotypes of "useless" and excessively academic PhD's will probably fade away.

Considered both independently and as ingredients of a totality, the growth of the five factors informs *a new way of talking and thinking about scholarly and professional matters*. In the future, such ways of speaking and acting will be accepted; they might even be demanded by the authorities, notably employers in a labour market with ambitions of innovation.⁸

The above presentation of the five elements in the PhD education portrays a research framework in both structural and processual terms. In the following, I shall explore two selected *subensembles* with empirical reference to a distinct group of former PhD candidates with whom I happened to be involved.

In Part II, I shall outline the production of knowledge that results from a triangular relationship between the PhD candidate, the dissertation, and the supervisor.

In a subsequent Part III, I shall single out another triangular relationship, engaging the researcher who has obtained the PhD title, the dissertation, and, finally, has entered the labour market and the profession. How are certified researchers and their qualifications employed in the contemporary world? And to which extent do new patterns of employment promote a relational conception of architecture?

PART II. RESEARCH: A SCHOLARLY LANDSCAPE

In this second part, the *supervisor* provides the viewpoint from which research results will be commented on.

Limiting the enquiry to a subensemble of three factors, we can single out various relational qualities within architecture – qualities that appear when a number of PhD dissertations are considered as part of a larger scholarly effort.

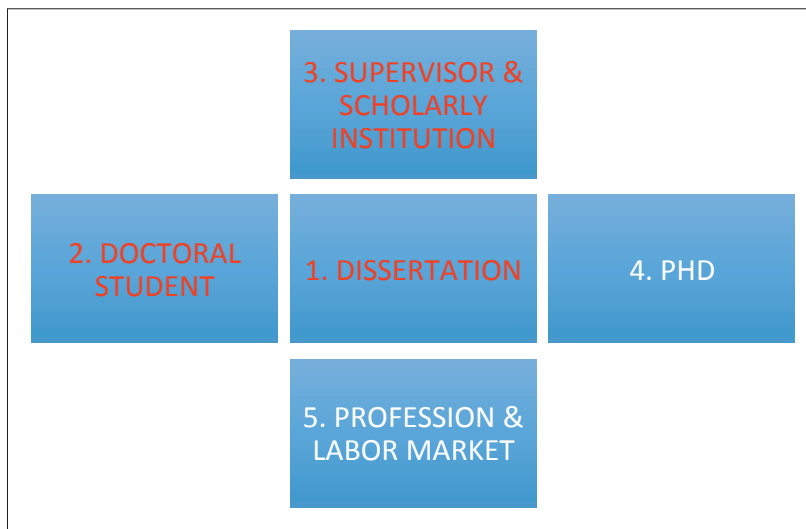


Figure 2. Subensemble I (red) within the relational architecture of doctoral research.

In fact, I shall address the intellectual landscape that appears in the dissertations by six PhD candidates, whose research education I have been supervising (sometimes in collaboration). In this way, a second example of “relational architecture” (this time in a more immediate sense of the term “architecture” than in the first part) will stand out; six dissertations suggest a conception of architecture in which relational features invade a field that, traditionally, was understood in much more static, physical, and three-dimensional terms.

The six different PhD dissertations situate themselves along three *axes*. One may thus distinguish three *couples* of dissertations.⁹ In fact, the dissertations form three dialectical images which document how a few PhD candidates may, after all, contribute to an essential understanding of the architectural realm.

Axis I: History – Architecture – Politics

A first axis stages an intimate relationship between architecture and history. Positioning themselves in relation to past and present, modern architects often refer to architecture-historical features in their local or national environment. Moreover, architectural projects may engage in an interpretation of historical trends and thus articulate particular layers in actual society.

Axis I, point A:

Enkelhed, mådehold og funktionalitet – en analyse af fremtrædende danske arkitekters udlægning af dansk arkitektur (Simplicity, Modesty and Functionality: An Analysis of Danish Architecture according to Major Danish Architects [= Rectors and Historiographers]). Author: Jannie Rosenberg Bendsen.¹⁰

This dissertation addresses the often implicit normative positions in Danish architectural education. Reinforced by the fact that architecture is taught at schools of architecture and not, as in many international environments, within a university, the issues of professional self-consciousness and historical legitimacy are rarely discussed. Yet the aesthetic, ethical, and spatial positions governing the shared language and traditions of Danish architecture have obtained prominent spokesmen in two long-term rectors of the Copenhagen and the Aarhus schools of architecture, namely Tobias Faber and Nils-Ole Lund. Both of them are well versed in architectural history and have written substantial presentations of Danish and Nordic architecture, respectively. May these historical accounts be considered as representations of decisive architectural values in the era of the Danish Modern and Postmodern? This

is the idea underlying a dissertation which aims at detecting basic yet tacit principles that continue to animate the pedagogical structures (workshop training rather than reading) in Copenhagen, and in Aarhus, where social commitment and intellectual ambitions also profited from the presence of critical thinkers, originally trained in Literature and History of Ideas at the University of Aarhus in the late 1960s and early 1970s. Despite such differences, a national tradition – that may in part be shared with other Nordic countries – seems to survive and to inform contemporary Danish architecture studios, some of which successfully export their designs on the international market. According to the Copenhagen rector Tobias Faber, modesty, craftsmanship, and honest use of materials are fundamental, whereas the Aarhus view of Nils-Ole Lund also points to social, historical, and political values of the welfare state as key to Nordic architecture. A major reinterpretation of history and ideals has been underway in recent decades, during which architecture has become the object of cultural policies and projects destined for a global market. Nonetheless, tradition still tacitly pervades the normative aesthetic and pedagogical institution of architecture.

Axis I, point B:

Berlins Alexanderplatz mellem opbrud og erindring (book version), originally *Tilbage til fremtiden, men hvilken?* (dissertation). Subtitle in both cases: *Den byarkitektoniske idékonkurrence for Berlins Alexanderplatz i 1993* (Berlin's Alexanderplatz between Rupture and Memory), originally: *Back to the Future, but which one?* Subtitle in both cases: *The Urban-Architectonic Design Competition for Berlin's Alexanderplatz, 1993*. Author: Hans Christian Post.¹¹

Architecture also actively participates in history, and this participation is a possible object of research, too. The second dissertation – on history, architecture, and politics – explores an international source material, defined by the prizewinning projects for an urban design competition in Berlin, 1993. Here, Alexanderplatz, a most emblematic Berlin square in former East Germany but also in interwar Germany, is at stake. The dissertation particularly discusses two prizewinners and points out the quasi-impossibility of a dialogue between them.

Indeed, Hans Kollhoff, laureate of the first prize, cultivates the “golden age” of Berlin in the 1920s: *die goldenen Zwanziger*. Still, the urban-architectural idiom of Kollhoff's thirteen skyscrapers for the future Alexanderplatz area is largely influenced by the aesthetics of the New York City's Rockefeller Center architecture from the mid-1930s.

On the other hand, Daniel Libeskind's second-prize project for the Berlin square might refer to the aesthetics of Russian Constructivism that he submits to a deconstructivist rereading of the 1990s. Basically, however, Libeskind's polysemic and multilayered project points to the cultural and political history of Berlin (East and West) and of both Germanys, as a realm to be taken seriously. In a situation after the fall of the Berlin Wall, two sociocultural traditions – those of East and West – were, ideally, to meet and engage in dialogue within one city, Berlin, which was about to become the capital of a reunified nation. Could such a dialogue be articulated by means of urban architectures and spaces?

None of the prizewinning proposals have been fully applied. First of all, Kollhoff's skyscrapers have remained unbuilt. Should some of them become physical reality one day, the context of the Alexanderplatz area will affect their

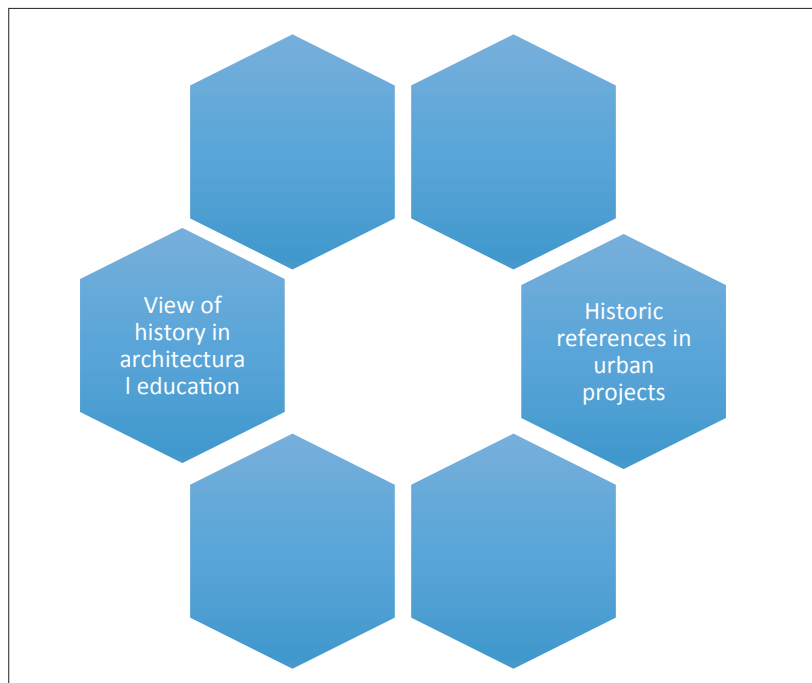


Figure 3. Axis I of scholarly landscape as suggested by six PhD dissertations.

architectural and urban meaning. Influenced by the popular culture which, for ages, has been associated with Alexanderplatz, this site just outside of the former city border is no *tabula rasa*. As suggested by Libeskind's attention to the many layers of collective habits and memory, counteracting forces unfold in this area – socially, economically, politically, or even physically. After all, the composite urban context of Alexanderplatz is a powerfully modifying factor and may become a long-term winner of the urban-architectural battle that continues in twenty-first-century Berlin.

Altogether, the dissertations positioned on the first axis, “History – Architecture – Politics”, both address relations between architectural culture and history. In either case, aesthetic and ethical issues are touched upon, while national and urban levels act differently. However distant the architectural values in the education of Danish architects and the urban-architectural typologies in post-Wall Berlin may appear – the two realms of professional consciousness and historicopolitical battles *converge* in documenting contemporary uses of architecture and their debt to history.

Axis II: Public Space – Suburbia & Harbours – Postindustrial Realities

Public space is frequently associated with a city rejecting the values of suburbia and domesticity. However, one should not underestimate those public spaces which arise in postindustrial or postmodern contexts. Such spaces occur not only in the city centres, at present dominated by retail, consumption, and cultural institutions, but also in areas which have long been considered alien or even hostile to the European urban tradition. After all, public space is also possible in suburbia, just as it is a main ingredient in the conversion of former industrial areas along harbour fronts.

Axis II, point A:

Det urbane suburbane – forstadsbyrum i Vangede og Silicon Valley (Urban Suburbia: Suburban Urban Spaces in Vangede and Silicon Valley). Author: Birgitte Bundesen Svarre.¹²

Many urban discourses stage public space and suburbia as enemies. Since traditional and modern city centres are considered places of *Öffentlichkeit*, of publicness, excentred suburbia is depicted as an array of lifeless spaces where residents are primarily cultivating *private* life, at the expense of shared places and activities. Life goes on behind the hedge, while movements outside are dominated by cars and consumption.

But is this a true picture of reality? One sometimes gets the impression that such discourses rely on a radical repression (*Verdrängung*) in the minds of the speakers, many of whom originally grew up in suburbs before migrating to cities for educational and other purposes. Now, however, they tend to underestimate those *urban* aspects of life which were present in their suburban childhoods. In reality, many suburbs are built upon the structures of premodern villages which orient constructive and infrastructural patterns and allow for human encounters in everyday life. Places in suburbia such as libraries, schools, recreative areas, sports facilities, but also shops and supermarkets, are sedimented in the experience of humans; they inform the history of children growing up in suburban towns and quarters to an extent that may, sooner or later, find literary and other symbolizations in genuine works of art.

Occasionally, public space in suburbia receives fame and collective recognition thanks to literature. This is what happens in Danish author Dan Turèll's *Vangede Billeder* (Vangede Images) from 1976, in which Vangede, an underprivileged sector within the wealthy suburban municipality of Gentofte, north of Copenhagen, is depicted as an adventure zone for the children growing up and the people living there. All sorts of secret places and colourful local personalities are given shape in a poetic prose, the dynamic rhythm of which echoes the fact that this book was first written as a kind of beat poem with lines of varying lengths. In the prose version finally published, the literary ambition contributes to dramatizing various spaces which become elements of a local mythology. In literature, Vangede stands out – in remarkable contrast to the more boring physical and social reality usually associated with the petty bourgeois building typology and lifestyles of Vangede.

Vangede is “Gentofte’s Harlem”, as Turèll’s puts it. Local patriotism and underground literature unite in this book. Here, the “infra-ordinary” (a term coined by French writer Georges Perec)¹³ is turned into literature as a recognition of a particular suburban location in which, thanks to the minds of children and youngsters, public places are generated everywhere as a result of everyday human inventiveness and poetic improvisation by misfits and ordinary people alike. The quasi-baroque aspects of Vangede have been perpetuated by Turèll’s literature, despite the fact that, later on, valuable architectural monuments and well-designed shopping centres were added, physically eradicating the adventure playgrounds of the writer and his generation. Yet the myths and connotations persist, conveying a heroic cultural relief to a previously unknown suburb.

Similar features and urban places of encounter appear in suburban zones worldwide, such as in California's Silicon Valley where dominant IT companies were founded and are building their own mega-villages.¹⁴ To visitors or collaborators, such headquarters may appear as urban monuments, although they are indeed private and mostly inaccessible. There as well, a local mythology with a global readership unfolds when Douglas Coupland maps the territories of the IT economy in his 1995 novel *Microserfs*. In built reality, the library, the cultural centre, the private garage, and other places stand forth as potential elements of public space in a suburban reality that cannot be reduced to anti- or simply an-urbanity. Paradoxically perhaps, urban elements are generated under new suburban conditions. Suburbia is more than a void.

Axis II, point B:

Translating Harbourscapes: Site-specific Design Approaches in Contemporary European Harbour Transformation. Author: Lisa Diedrich.¹⁵

For more than a century, urban coastal or riverbank areas were conquered by industry and made inaccessible to the public. Turning their back on the city, they generated a borderland between the city itself and the waterfront that once defined not only the location and the attractiveness of a city on the map, but also huge portions of the everyday movements and activities among citizens. The subsequent decline of industrial production in the Western world brought an end to this anti-public occupation of city space and made new civic uses of the harbourfront possible, be it for residential, corporate, cultural, leisure, or landscape purposes. This is why recent decades have promoted a kind of urban regeneration which, however, tends to look very much the same in profoundly different locations. Generic building patterns in apartments or offices are applied, stressing a repetitive trend which doesn't reflect the morphological and sociocultural heterogeneity of the individual cityscapes, but exacerbates the similarities already promoted by industrialist architecture and landscapes.

While standard solutions get the upper hand, site-specific strategies should remain possible. But how is site-specificity to be articulated in the individual locations? How is site-specificity translated into particular planning solutions and processes?

Many conceptions of site and site-specificity circulate. Some authors refer to the immediately visible particularities of a place and its topography, while

others claim that structural features, visible or not (sometimes underground), are capable of defining a particular setting as part of a functional totality. In this way, the falsely evident term of site-specificity is subject to variation and cannot be claimed as an unambiguous normative value. A dialectic between generic and specific traits occurs, in which topography (immediately visible landscape features) as well as social, cultural, and functional variables are at play.

Many planning processes favour a *tabula rasa* strategy and eliminate visible as well as tactile, auditory, and olfactory traces of the original harbour topography in the new and refurbished environment. There are indeed examples of long-term transformation processes in which the emphasis on *topographic heterogeneity and multilayered spatialities* informs a new cityscape. One such example is provided by the Île de Nantes (Nantes Island) in the Loire River, France, where Alexandre Chemetoff, landscape architect, was in charge of

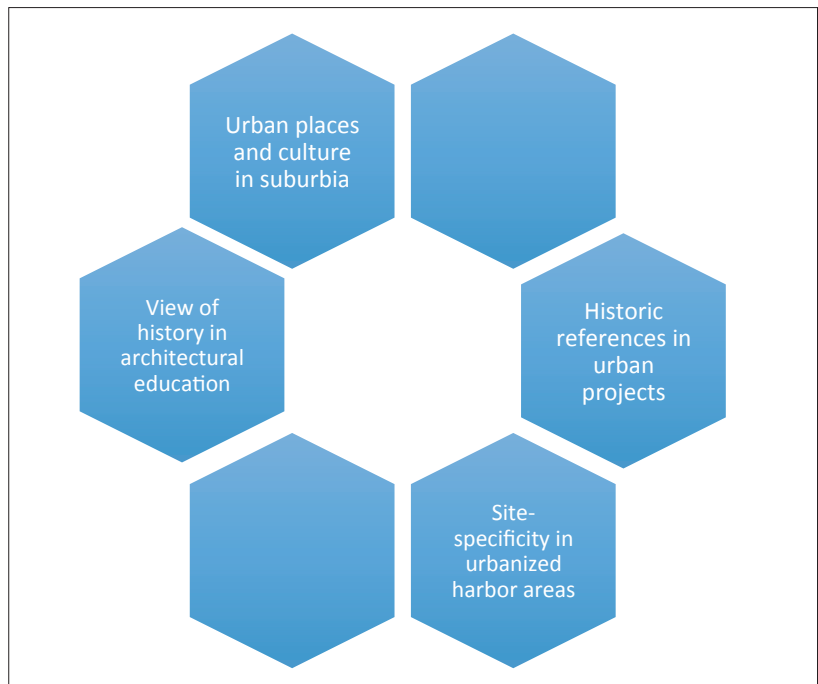


Figure 4. Axis I and II of scholarly landscape as suggested by six PhD dissertations.

the transformation process for a decade. In Nantes, a new representational tool, Chemetoff's so-called *plan-guide*, has helped to maintain remarkable differences – temporal, structural, architectural, functional – within an urban zone which otherwise would have been treated in more generically and homogenizing ways. Allowing time to last, and inviting things to develop, this project tries to take advantage of the many leftovers from the previous industrial and maritime functions on the spot.

In sum, elements of site-specificity may be developed, if one privileges a place-sensitive representation of space as well as a composite process of transformation. Time, quality, and heterogeneity are key in this context. Linking traditional suburbia and harbour zones with city centres, the dissertations composing the *second axis* foster dialogue between urban space and postindustrial realities; here, attention and inventiveness counter those homogeneous trends which, quite often, seem inevitable. But they are not.

Axis III: Sound – Territoriality – Embodiment

Two dissertations in which hearing and auditory perception of space are introduced as components in contemporary territoriality add a third axis to the ongoing rethinking of architecture. The familiarity of sound, music, and architectural space is no recent discovery. Since antiquity, music and architecture have been closely related in built space and also in discourses on architecture. Just read your *Vitruvius*.¹⁶ Or go to “Hearing Architecture”, the final chapter in Steen Eiler Rasmussen's *Experiencing Architecture* (orig. 1957).¹⁷ On the other hand, contemporary metropolitan life takes this acoustic dimension in space and life to a whole new level.

Axis III, point A:

Akustisk territorialitet: Rumlige perspektiver i analysen af urbane lydmiljøer: R. Murray Schafer, J.-F. Augoyard, G. Deleuze & F. Guattari (Acoustic Territoriality: Spatial Perspectives in the Analysis of Urban Sound Environments: R. Murray Schafer, J.-F. Augoyard, G. Deleuze & F. Guattari). Author: Jacob Kreutzfeldt.¹⁸

Since the emergence of the concept “soundscape”, a neologism due to R. Murray Schafer in the mid-1970s, sound has increasingly been recognized as a component in the human exchange with spatial environments. Sound cannot be photographed, but it may be recorded and transformed into a material archive which documents it as a possible object of study and speculation.

Murray Schafer's normative naturalism implies an anti-urban stance and prevents a nuanced mapping of metropolitan soundscapes. However, other authors have taken urban sound seriously in an attempt at conceptualizing the auditory dimension in modern life. While composers of the post-World War II period introduced so-called *musique concrète* and conceived of sound objects, French philosopher and musicologist Jean-François Augoyard and his research team focused on the so-called *effets sonores*,¹⁹ or "sound effects", by means of which the differentiated presence of sound in contemporary space may be described. After all, sonic presence pervades space and affects human beings who try to appropriate their spatial surroundings.

As we know from shopping environments, music technologies are used to stage quotidian spaces and promote certain activities (often commercial). On the other hand, human beings actively accompany their daily practices with little pieces of music or singing. Contemporary French philosophers Gilles Deleuze and Félix Guattari conceptualized this type of sound practice with a reference to the so-called *ritournelle*, a refrain or a repetitive musical figure thanks to which an interpretive *territorialization* of space becomes possible. In addition, de-territorialization and re-territorialization also take place when human beings move through space and make it their territory by way of tone and rhythm.

Mapping such acoustic territorial efforts in metropolitan environments provides insight into the cocktail of sounds pervading present-day urbanity. Intentional or not, sound affects architecture and its perception by humans.

Axis III, point B:

Når musikken virker – en undersøgelse af lydens mobilisering og mediering i det urbane rum (Music in Action: An Enquiry into the Mobilization and Mediation of Sound in Urban Space). Author: Nina Gram.²⁰

Increasingly, human movements in public space, not least in cities or on the way to and fro, are accompanied by sound prostheses which add an extra layer to the visual and tactile perception of contemporary landscapes. Historically, the post-World War II car radio, later augmented with a cassette or a CD player, is but a first technology which allows for a dynamic combination of seeing and listening while moving through space. The car radio was followed by the mobile transistor radio (powered by batteries), sometimes becoming a "ghetto blaster", and, later, by individual listening devices such

as the Sony Walkman (playing compact cassettes), the iPod (storing music as digital files), and, since 2007, the smartphone. In the mid-2000s, the metaphor of “iPodification” in urban space referred to a specific sound technology (MP3 players, notably Apple’s iPods). Since then, the practices of mute listening (and occasional talking) through headsets have become a general phenomenon in public transportation, on sidewalks, or on bicycle lanes. The multimedia smartphone – a personal computer combined with sound and image technologies – accompanies people everywhere, and loudspeakers with built-in microphones (for telephone conversations) are positioned over, on, or in people’s ears.

The smartphone and its more or less visible sound accessories even affect the urban experience of non-listeners who are visually confronted with co-citizens wearing ear- or headphones. One cannot help wondering whether these persons are actually listening – through their earphones – to some kind of music or other soundtrack which may heighten or lower the appearances of the immediate location. They might also be deeply involved in a conversation with somebody else who is not physically present. Or are they still hearing their surroundings from behind their technical protection (ear- or headphones)? One imagines an entire array of possibilities which determine one’s own imaginary position in the reciprocity taking place. A general question remains: How do head- or earphones tune and affect a citizen’s perception of the world: of him- or herself, of other people, of *me*, of *us*? In principle, all of us are present in space, but the modes of presence are subject to variation.

Quite a few researchers interpret the extra soundtrack or mobile telephone conversations as a contribution to narcissism and placelessness. The listener is supposedly not taking his or her surroundings, be they physical, social, or human, into consideration. Yet this neutralization of the environment is but one interpretation of the subjectivity at play in the other person facing us. In reality, he or she might also be perceiving the urban or suburban environment in an intensified way. A soundtrack or conversation will sometimes blend with it and thus generate new constellations of visual appearances and mental interpretations. Thanks to the sound montage evolving in the headset, a new and productive kind of interpretation and self-reflection may unfold – just as listening to music or radio programmes from a car radio sometimes intensifies the experience of both music and landscape in the mobile human being on the road. Subjective experiences take place in the mind of a person who invites a soundtrack to become part of his or her trajectory, as well as of a bodily practice.

Things and humans, speed and technology, combine and make space sound differently, thus emphasizing the fleeting and temporal quality of life in contemporary cities.

Inspired by the six PhD space-related dissertations I once supervised, the above comments on their constellation in *three dialectical images* suggest how a limited body of doctoral research may articulate overlooked dimensions in architecture.²¹ Embedded in history and humans, city and suburb, harbours and hearing, architectural space transgresses its apparent three-dimensional objectivity. Instead, architecture becomes a *relational field* of potentials to which architects and citizens, beholders and researchers, all have contributions to make.

PART III. TRANSFORMATION: POSITIONS AND RELATIONS

In the third and final part of the present article, I shall briefly outline the professional situation faced by the authors of the dissertations commented on

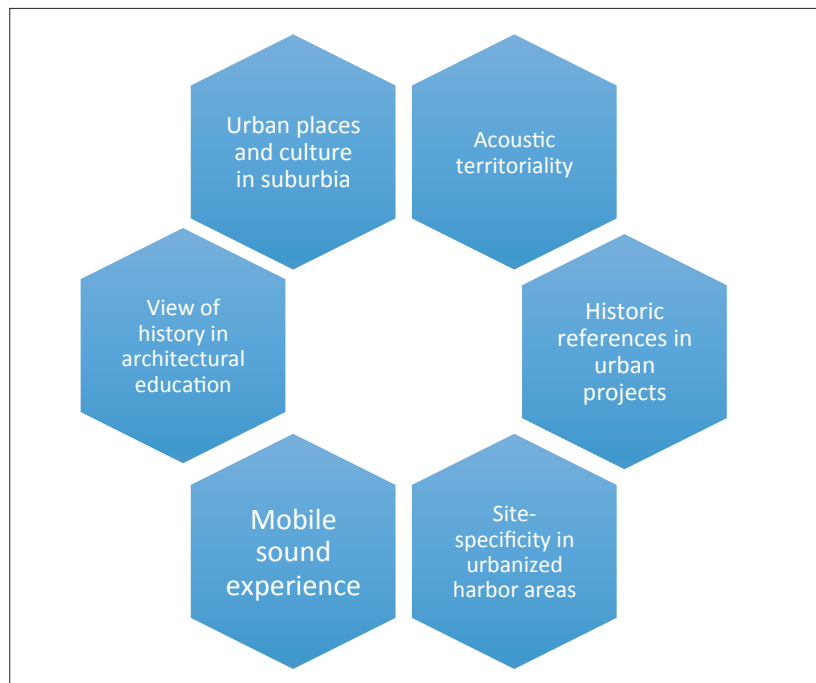


Figure 5. Axis I, II, and III of scholarly landscape as suggested by six PhD dissertations.

above. Once again, *relational features* appear. Among the basic five elements in the model of knowledge production related to PhD education, we are now focusing on the triangle encompassing the certified PhD scholar, his or her dissertation, and the profession, including its labour market.

To be sure, the dissertation authors operated successfully in the academic system and, moreover, contributed to the intellectual realm of architecture. Nonetheless, one might wonder whether innovative academic approaches to an object with strong traditions are welcomed by the professional field. In short, is the labour market ready to integrate the authors of such dissertations, and if yes, in which ways?

The postdoctoral situation is a strange mixture of individual fatality and general tendencies. The period immediately after having been awarded the PhD title is both exciting and demanding, promising and tough. Although the former PhD candidates belong to a relative elite, no safe job situation is awaiting them. In particular, no professional itinerary is guaranteed within research – the realm for which they were educated. Even though one transforms one's dissertation into a scholarly book and publishes it with a recognized academic publisher, as did Hans Christian Post with his research on

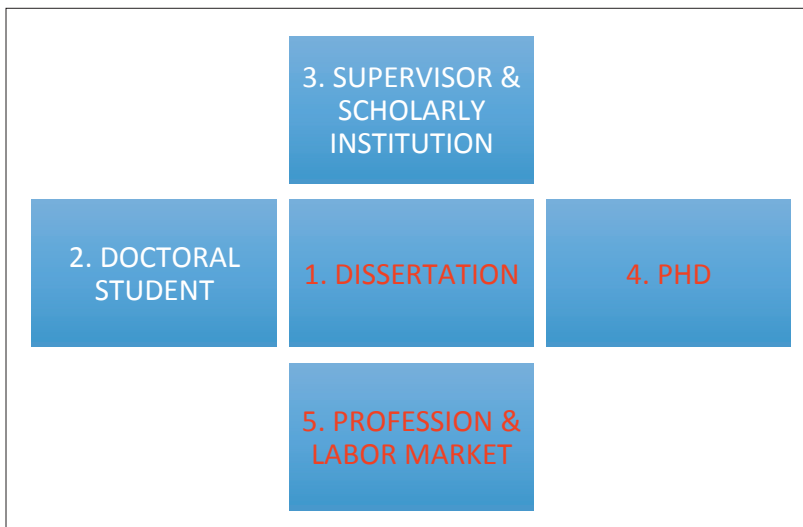


Figure 6. Subensemble II (red) within the relational architecture of doctoral research.

Berlin's Alexanderplatz,²² many variables and coincidences decide whether a university track or other professional itineraries will become effective. This may be experienced as a problem, but also as an opportunity insofar as new tasks and practices prove desirable, too.²³

Basically, a large professional field has proven relevant to the authors of the six dissertations referred to in Part II. Each life story is certainly an individual one, but general positions and patterns in the current academic labour market appear when summarized by four keywords: "Representation", "Patrimonialization", "Consultancy", and "University". Indeed, these positions are interdependent and reversible; in the long run, shifts and reorientations are possible and sometimes necessary.

1. Representation and Communication of Architecture and Urban Culture

As philosopher Walter Benjamin observed in his seminal essay, *Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit* (The Work of Art in the Era of Its Technical Reproducibility, 1936),²⁴ the reception of architecture is twofold. Divided between optics and tactics, architectural reception is united in everyday life, where vision and bodily practices supplement each other.²⁵

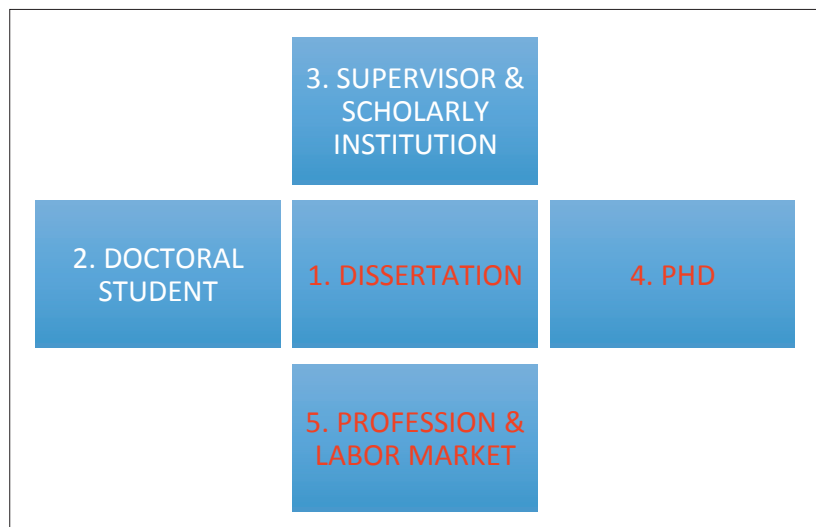


Figure 7. Elements in the professional landscape encountered by former PhD candidates.

On the other hand, the sense of sight is dominating contemporary culture. Just observe how photography and film are continuously mobilized, not least in spectacular representations of architects and projects. Despite the intimate link between architecture and visibility, questioning architectural and urban matters remains possible. In cinematographic representation of space and time, critical opportunities may occur.

More than a by-product of scholarly research, the project for a documentary film gives a doctoral student access to key players in the field who otherwise would have less time for interviews. Later on, the representation of such research by way of cinema may take on a life of its own, thanks to various festivals of architecture, cities, or cinema. “Festivalization” is a phenomenon in which issues of architecture have a role to play, sometimes even a challenging one.²⁶

The realm of sound is equally evolving. Instead of being subsumed by the moving images (video included), sound may seize a distinct and privileged role, either as montages or by way of narratives inviting us to reflect. Thanks to the miniaturization of recording and listening technologies, a new sphere of auditory experiments is there to be explored – to the benefit of critical space, urban culture, and self-discovery.²⁷

2. Patrimonialization: Cultural Heritage, Conservation, and Collective Memory

“Patrimonialization” is seemingly here to stay. At national and international levels, the preservation of built environments has become part of cultural policies and an object of public administration. More than an instrumental and technical practice, however, preservation is also a field of knowledge. Knowledge production is necessary in order to single out those areas which will be taken care of in policies of exhibition and maintenance. With the expanded role of “cultural heritage”, the development of criteria and typologies, of histories and techniques, is on the agenda. This is why a scholarly informed approach to this domain is necessary as a response to the growing public or even political interest in the built environment – possible sources in community building, local economy, and city branding. Along with administrative and pragmatic agendas, a collective work of memory might thus become possible.²⁸

3. Consultancy: Urban Space and Cultural Policies

Fuelled by neoliberal discourses on the creative city, the cause of public spaces has become a privileged object of attention and investment in urban development. While “Life between Buildings” (a realm pointed out by Jan Gehl in the title of his book classic from 1971 on architectural space and human life) originally had a limited impact in a world of unbound automobilization, the decay of industry and, conversely, the growth of other economic sectors recently turned critical positions vis-à-vis functionalist rationalization into widely shared guidelines for urban design. This conversion also promotes research and experimentation in the field of urban space, which proves to be more than an issue of pleasant design. The cultural and social dimensions of urban spaces are essential in architecture and must eventually be addressed by the consultancy studios which are popping up as supplements to traditional offices of architecture and urban planning. A situation in which genuine research has a word to say may be underway as a field for scholars of urban architectures and cultures.²⁹

4. University: Teaching and Research

A certain imbalance is striking between the increasing number of PhD candidates and the reduced budgets for institutions of research and higher education which are not directly linked to sectors of economic growth. Even the academic elite – students funded for education beyond the MA or MSc levels – is facing a future that can take them to many other institutions than those of teaching and research in university and schools of architecture. Yet positions in higher education exist, and universities and schools of architecture occasionally renew their teaching and research profiles. As a consequence, some PhD candidates will make their way into the university context, insofar as universities now exclusively recruit their permanent faculty members among applicants who have completed a PhD curriculum.

CONCLUSION: RELATIONAL ARCHITECTURE

– INSTITUTIONAL, SUBJECTIVE, AND MATERIAL DIMENSIONS

Since times immemorial, architecture has been profoundly relational. Built space hardly exists in its own right but depends on reception by human beings, who not only see but also hear, touch, and smell as part of their life-world. Individually and collectively, people perceive, use, and appropriate the space surrounding them thanks to a multiplicity of practices spanning the quotidian and the ritual, the habitual and the exceptional. More than a delimited object, architecture constitutes an environment – a *milieu* – in which

human beings relate to each other and to space – material, imaginary, and sociocultural. Taking architecture as an object in research education may after all contribute to transforming the *relationality of space* from a tacit and overlooked condition into an explicit and essential cause.

NOTES

¹ A present-day PhD curriculum also includes half a year of course attendance and half a year of pedagogical experience, both of which are compulsory ingredients in the Danish education of a researcher at doctoral level.

² Still, professors barely teach continuous courses to doctoral students only. Unlike in France or Germany, there is no weekly or fortnightly teaching at this level – although such an institution would significantly raise the academic ambitions of the professors involved.

³ A few words about my individual experience related to teaching at a PhD level. Apart from organizing a series of doctoral courses and seminars, I have been a supervisor and co-supervisor of some ten PhD students since 1998, and I have also been a member of the PhD committee of the Faculty of Humanities, University of Copenhagen, since January 2008. From spring 2013, I have been co-chairman of the committee, conducting job interviews, et cetera, which gives me insight into the broad spectrum of doctoral education in the humanities. On top of being a visiting professor (2005) in Jan Gehl's Center for Public Space Research at Copenhagen's Royal Academy of Fine Arts – School of Architecture, I have been supervising a doctoral student (and a half) at that school (2002–11). In this way, I have looked into non-humanities traditions and I have also co-supervised theses in landscape architecture at the former University of Agricultural Sciences in Copenhagen (2012–13) and in musicology at the University of Aarhus (2009–13). In addition, I have supervised a so-called Industrial PhD student, who – employed at the Danish Architecture Center – was academically enrolled in the Faculty of Humanities, University of Copenhagen, during the years 2005–09. Finally, I have supervised four PhD candidates at the Faculty of Humanities in Copenhagen.

⁴ Practice-based projects are germinating, here and there, among visual artists, who are enrolled at universities, since the Academy of Fine Arts in Copenhagen, for instance, is not entitled to award the title of PhD. Such PhD candidates are allowed to adopt other formats than that of the traditional academic dissertation.

⁵ “Regelhåndbog for ph.d.-uddannelsen på Det Humanistiske Fakultet”, http://phd.hum.ku.dk/blivph.d./nyphd/opbygning/regler/HUM_regelh_ndbog_2015.pdf (all URLs accessed in February 2018).

⁶ Although it is still rare that PhD candidates and supervisors co-sign articles, let alone that the PhD student carries out research projects defined and detailed by the supervisor, certain externally funded research projects do indeed depend on the doctoral dissertations in order to reach their defined goals; and the funding of individual PhD candidates (scholarships, travel expenses, etc.) is increasingly generated by research budgets provided by external sources.

⁷ A Danish *dr. phil.* is in reality a *Dr. Habil.* according to the Germanic tradition, in which the denomination *Dr. Phil.* is but the equivalent of a *PhD* in the Anglo-American world.

⁸ In reality, the qualifications of contemporary doctors in architecture or other disciplines are not that different from those of some previous master's students who, generally, were graduating at a significantly older age after having ruminated their master's thesis project for a long time. In certain cases, limited changes would have sufficed for a former master's theses to look like a contemporary PhD dissertation. Only in those days, until the late 1980s, the PhD title was not a realistic or necessary endeavour for students in their late twenties or early thirties. Being awarded a PhD degree wasn't institutionally favoured in the way it has become, thanks, not least, to a heavy injection of financial means which generates a new and distinct population of academics who develop their own codes and reflexivity, but also, sometimes, their own privileges and system of self-esteem.

⁹ See Henrik Reeh et al. (eds.), *Rumlig kultur / Spatial Culture: Studier i Urbanitet & Æstetik / Studies in Urbanity and Aesthetics* (Copenhagen: Museum Tusculanum, University of Copenhagen, 2012) for a constellation of some twenty master's theses, written under my supervision. These master's theses also situated themselves in subensembles, constituting five essential fields within a humanities approach to urban studies.

¹⁰ Jannie Rosenberg Bendsen, *Enkelhed, mådehold og funktionalitet – en analyse af fremtrædende danske arkitekters udlægning af dansk arkitektur* (Copenhagen: University of Copenhagen, 2009). The public defence took place on 7 December 2009. Article in English derived from this dissertation: Jannie Rosenberg Bendsen, "A Tale of Danish Architecture: Nils-Ole Lund's Interpretation of Danish Architecture", in *Forming Welfare*, ed. Jannie Rosenberg Bendsen et al. (Copenhagen: Architectural Press / Arkitektens Forlag, 2017), pp. 322–39.

¹¹ Hans Christian Post, *Berlins Alexanderplatz mellem opbrud og erindring* (book version), originally *Tilbage til fremtiden, men hvilken?* (Copenhagen: University of Copenhagen, 2011). The dissertation was publicly defended on 25 November 2011.

¹² Birgitte Bundesen Svarre, *Det urbane suburbane – forstadsbyrum i Vangede og Silicon Valley* (Copenhagen: Kunstakademiets Arkitektskole, 2011). The public defence took place on 24 May 2011. English translation of title: "Urban Suburbia: Suburban Urban Spaces in Vangede and Silicon Valley."

¹³ Georges Perec, *L'infra-ordinaire* (1989; repr., Paris: Editions du Seuil, 1994), essay from 1973.

¹⁴ Aureliano Tonet on Apple's new headquarters, designed by Norman Foster: "Apple pose sa soucoupe à Cupertino", *Le Monde*, 21–24 August 2017. Article 1 of 6 in a series on "Temples high-tech".

¹⁵ Lisa Diedrich, *Translating Harbourscapes: Site-specific Design Approaches in Contemporary European Harbour Transformation* (Copenhagen: University of Copenhagen, 2013). The dissertation was publicly defended on 9 December 2013.

¹⁶ Vitruvius, *The Ten Books of Architecture*, trans. Morris Hicky Morgan (New York: Dover, 1960), pp. 8 and 153. This translation was originally published in 1914.

¹⁷ Steen Eiler Rasmussen, *Experiencing Architecture* (1959; repr., Cambridge, MA, and London: MIT Press, 1964), pp. 224–37.

¹⁸ Jacob Kreutzfeldt, *Akustisk territorialitet: Rumlige perspektiver i analysen af urbane lydmiljøer: R. Murray Schafer, J.-F. Augoyard, G. Deleuze & F. Guattari* (Copenhagen: University of Copenhagen, 2009). The dissertation was defended in public on 8 December 2009.

¹⁹ Jean-François Augoyard and Henry Torgue, *A l'écoute de l'environnement: Répertoire des effets sonores* (Marseille: Ed. Parenthèses, 1995).

²⁰ Nina Gram, *Når musikken virker – en undersøgelse af lydens mobilisering og mediering i det urbane rum* (Aarhus: University of Aarhus, 2013). The public defence of this dissertation took place on 15 April 2013.

²¹ On four distinct meanings of “overlooking”, see Henrik Reeh, “Four Ways of Overlooking Copenhagen in Steen Eiler Rasmussen”, in *The Urban Lifeworld: Formation, Perception, Representation*, ed. Peter Madsen and Richard Plunz (London and New York: Routledge, 2002), pp. 252–76.

²² Hans Christian Post, *Berlin's Alexanderplatz mellem opbrud og erindring* (Odense: University Press of Southern Denmark, 2014).

²³ This observation of professional openness also applies to master's students in urban-cultural and architectural studies. While certain curriculum managers prescribe a specialization for the sake of promoting expertise, I myself recommend a more flexible model. Just as there are limits to the degree of expertise you obtain in a two-year master's program, professional reality requires flexibility. In principle, masters of humanistic urban studies (the realm of my position at the University of Copenhagen) should be prepared for three kinds of professional employment, all of which start by an “F” in the Scandinavian languages: *Forskning* (research), *Formidling* (communication, dissemination, public outreach), and *Forvaltning* (administration). Many a former master's student has coped with changeable situations, which took them from, say, teaching to administration and further on to research – and sometimes back again. While unemployment is a more or less unknown phenomenon among the twenty contributors to the book *Rumlig kultur – Spatial Culture*, their versatile experiences confirm the relevance of a “3F” strategy for an academic curriculum in urban and architectural studies. See Reeh et al., *Rumlig Kultur / Spatial Culture*.

²⁴ Walter Benjamin, “Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit” (1936), in Walter Benjamin, *Gesammelte Schriften*, vol. I, 2 (Frankfurt am Main: Suhrkamp Verlag, 1980), pp. 471–505. A US translation of this version appeared under the title “The Work of Art in the Age of Its Technological Reproducibility” in Walter Benjamin, *Selected Writings*, vol. 4: 1938–1940, ed. Howard Eiland and Michael W. Jennings (Cambridge, MA, and London: Belknap Press, 2003), pp. 251–83.

²⁵ Henrik Reeh, “Blik i brug – Walter Benjamin og erfarens arkitektur”, in *Filosofi & arkitektur i det 20. århundrede*, ed. Carsten Thau (Copenhagen: Kunstakademiets Arkitektskole, 2006), pp. 83–124.

²⁶ Hans Christian Post, *Last Exit Alexanderplatz*, Denmark and Germany. Director, script, and research: Hans Christian Post. World sales: Michael Truckenbrodt (trucken@timeprints.de). Production: Hans Christian Post, Michael Truckenbrodt. Production company: Time PrintsKg. Editing: Karoline Schulz. Cinematography: Uwe Bohrer, Erik Krambeck, Hans Christian Post. Soundtrack: Hans Christian Post, Kristian Due Marstal, Mikkel Benn, Mitch & Mitch With Their Incredible Combo. *Whose City* (2017), another documentary film by H. C. Post, is also derived from the many substantial interviews he did for his PhD dissertation on post-1989 Berlin.

²⁷ In 2017, Jacob Kreutzfeldt is the festival director of *Struer Tracks*, a sound festival hosted by the City of Struer (Jutland, Denmark), where the headquarters of the Bang & Olufsen hi-fi manufacturer are located.

²⁸ Jannie Rosenberg Bendsen, Birgitte Kleis, and Mogens Morgen, *Bellahøj – Fortællinger om en bebyggelse* (Copenhagen: Strandberg Publishing, 2015). Jannie Rosenberg Bendsen et al. (eds.), *Form til velfærd* (Copenhagen: Arkitektens Forlag, 2017).

²⁹ Jan Gehl and Birgitte Svarre, *How To Study Public Life* (Washington, DC: Island Press, 2013).